and there were several elements in his domestic life that would readily serve to aggravate a neurotic tendency. He had an opportunity through influential friends to enter the regular service of the army, in which he had during the Spanish War been a volunteer officer, and the life appealed strongly to him. On leaving the hospital he had gone to Washington; successfully passed the civil service and the medical examination, and received an appointment. I lately heard from a kinsman of his who had originally sent the case to me, that he had been constantly in active duty, and from the time of his appointment had remained in good health, and was totally free from these attacks.

This case has been narrated somewhat in detail because of its unusual features. Here apparently pure hysteria so mimicked the features of renal calculus that his many attendants were deceived. An exploration of the kidney had been done with his ready acquiescence, and the second had been contemplated. The attacks of unilateral colic were undoubted, but they were apparently, as the later history showed, an expression of hysteria. To give verity to and emphasize the ailment which the patient himself regarded as kidney stone, he had wilfully misled in stating that he had passed calculi, as he had attempted to deceive in first relating his history—that he had been *x*-rayed while under Dr. Halsted, and a large stone seen, describing the shape and size of the suppositious stone removed. He is believed to have similarly deceived on more than one occasion in introducing blood into the urine specimen for examination.

CERTAIN HYPERTENSIVE CRISES IN ARTERIOSCLEROTIC SUBJECTS.

By John Bradford Briggs, M.D.,
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After eliminating all cases showing the more profound changes of general arteriosclerosis, all those of gross cardiac lesions, and those of manifest interstitial nephritis, there remains an instructive group of individuals, presenting many and varied symptoms, but only one definite or constant physical sign—that of hypertension of the pulse. The patients to whom I refer, coming from every class in society, of various occupations and of every diversity of personal habit and habits, are alike in virtual age. They are all nearing or have passed a certain grand climacteric; their footsteps have crossed the Simplon of the vital Alp, and are definitely tending toward the grave. Their actual count of years may be many as we reckon them, or few as compared with the improved chances of life expectation tables, but one and all they come to us to tell of the first foreshadowing of their far-off but approaching fate. The signal, whatever it may be and whatever its form, is the "tap on the shoulder" of physiological old age, nature's warning of the lesser death. To some it comes as the bill for a long life, to others as that for a hard one, while to another group it is but the expression of defective vascular heredity—from one and all it demands an account for much life lived, and signifies that not so much is left.

With certain of the forms of this universal signal we are very familiar. The pipe-stem arteries, the whitening hair, the joints losing their suppleness and the muscles and nerves their agility of function, speak with equal distinctness to the layman and to his physician. Certain others are appreciated only by the medical man—especially that permanent trace of albumin and those few tube casts that may be of such an advantage to a man when they are properly interpreted at the right time.[1] But very, very often, when nature is in a kindly mood, she speaks in still milder accents, and her softly whispered "Go slow!" is uttered at an even earlier period. Early enough, if the admonition be heard and heeded, for the period of physiological old age not only to be prolonged, but even to be avoided for many years. It is of this admonition, when it takes the form of expression of hypertension of the pulse, and with some of its relations to albuminuria, that I wish to speak.

That there is an intimate relation between pathological states of high blood pressure and renal permeability to albumin is possibly a notorious clinical fact. Numerous observations on widely different classes of cases—infectious, cardiovascular, renal—early convinced Cook and the author[2] that if hypertension is not the inevitable forerunner and companion of albuminuria, at least in any individual the clinical gravity, if not the actual measurable degree of his albuminuria, is generally roughly parallel to the line of elevation of his blood pressure. To claim that every albuminuric event in the previously healthy, or every increase in albuminuria in those whose kidneys are already intolerant, is necessarily preceded by a dramatic rise in blood pressure, and immediately caused by it, would not meet the facts.[3] But that in the majority of patients whose albuminuria is at all a cause for anxiety, the clinical measurement of blood pressure is capable of furnishing an early danger signal, and even of serving as a handmaiden to the successful therapeutist, is a statement easily susceptible of proof. Janeway[4] recognizes the emphatic importance of hypertension in connection with the contracted kidney, and gives a striking illustration of its worth as an aid in a differential diagnosis. It is not so much with cases of this type that these notes will have to do, as with another clinical group, the vascular origin of whose renal lesion is beyond question, and in whom vascular and vasomotor changes may be followed, as they determine variations in the state of the kidneys. However clear as pathological entities the "true granular" and the patchy red arteriosclerotic kidney may be, and however certainly their urines may be recognized and even differentiated from one another, it is far from true that every arteriosclerotic individual, whose urine at a certain examination shows a trace of albumin, is suffering from one or the other of these gross lesions. It is understood, of course, that we are not referring to the acute febrile, nor the cyclic or other albuminurias of a transient nature. Entirely aside from such conditions I believe we may detect traces of albumin in the urine at a time when the kidney has suffered no irreparable structural damage, and when its impermeability to proteids in solution may perhaps be fully restored. The prenephritic stage, if the term may be permitted, is never so frequently recognizable as in the subjects of generalized arteriosclerosis. In the absence of any profound alteration in the vessels of the kidney itself, the circulatory changes in the arterially aged man, when widespread, are in themselves competent to produce a state of increased renal irritability, as it were, and to further the action of a congeries of renal noxæ, without of themselves inducing a permanently recognizable change in the urinary habit or constitution. The spectral "albumin, a trace," is a very probable visitor of the man with palpable radials, but his calls may in some instances be very often repeated before he settles down in permanency as an unwelcome *memento mori.*

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[1] Osler, New York Medical Journal, November 23, 1901.

[2] Cook and Briggs, Clinical Observations on Blood Pressure, Johns Hopkins Hospital Reports, vol. xi.

[3] Erlanger and Hooker, American Journal of Physiology, 1904, vol. x., Proceedings of the American Physiological Society, p. 16.

[4] T. C. Janeway, The Clinical Study of Blood Pressure, 1904, p. 172.

Case I.—Mrs. G., aged sixty-five years, an active woman, rather neurotic, with nothing in her previous history that bears on the present subject. In January and February, 1904, the patient suffered from influenza, bronchial symptoms predominating, and was convalescing in bed when I first saw her. She was weak and somewhat anæmic in appearance, but well-nourished and apparently in fair general condition. At no time had the urine been abnormal in amount or quality.

About the middle of February Mrs. G. began to complain of general headache, the pain becoming progressively worse and being associated with some mental dulness. The bowels were constipated; the urine somewhat diminished in amount. After a week of this condition the headache became quite severe, and one morning there was a definite clonic convulsion, more pronounced on the left side, involving the head and neck as well as the legs. Soon afterward I was called to see the patient. She was dull and stupid, breathing irregularly with partial Cheyne-Stokes respiration, though not at all comatose. The radial arteries were just palpable. Heart normal as regards position and sounds, except for definite accentuation of the aortic second. The reflexes were not exaggerated when the patient was quiet. While observing her, two minor convulsions were seen, affecting mainly the left arm and the face. The pulse was not rapid, regular, and of a deceptive and peculiar character that has been dealt with in another place[1]—so small as to suggest "weakness" (low tension) to the palpating finger. Acting on the apparent indication of the touch character of the pulse, strychnine (gr. $\frac{1}{20}$) had been given hypodermically, but only with the effect of exaggerating the spastic symptoms as well as the subjective malaise. There was very slight œdema of the ankles. A measurement of the systolic blood pressure was made at once and it was found to be 235+ mm. Hg. (Riva-Rocci, narrow arm-piece, Cook's old design). The absence of inequality of the pupils, of any palsy, of deviation of the head or eyes, and the state of the reflexes seemed to negative the possibility of an intracranial lesion, and the urine was at once examined. It was pale and clear, of specific gravity 1005, acid in reaction. There was a large trace of albumin, no sugar, no indican, urea only 6 gm. to 1 litre. There were a few casts, both hyaline and granular, but no abnormal cellular elements nor blood.

Liquid diet, purgation, diuresis, and vasodepressants were advised, with intermission of all vasostimulant medication. Within twenty-four hours the blood pressure had fallen below 200 mm. Hg., and in thirty-six hours to 108 mm. Hg. The urine still contained albumin and casts as before. Headache ceased. In forty-eight hours the urine was free from casts, it contained the faintest determinable trace of albumin, and its specific gravity had risen to 1018, while the systolic blood pressure was 165 mm. Hg. There was no suggestion of return of the convulsions, and the patient's subjective well-being was quite restored by the fourth or fifth day, when the blood pressure oscillated between 130 and 155 mm. Hg., and the urine was free of albumin and casts, of specific gravity 1020, daily quantity 1800 to 2100 c.c., urea 20 to 24 grams in the twenty-four hours.

In the past year there has been no return of symptoms. Frequent urinary examinations consistently fail to reveal any trace of a pathological condition.

In this case we have condensed into the space of a few days the major features and events of chronic (arteriosclerotic) interstitial nephritis. The absence of blood in the urine, of suppression, of every characteristic point, prevent the ascription of the term "acute inflammatory" to the renal process, while the headache, the convulsions, the slight œdema, every general symptom and sign, debar us from describing the urinary changes as those of a "grippal," toxic or febrile, insignificant albuminuria, and yet for over a year since the attack recited the patient has passed urine of unimpeachable quality and quantity, and has been quite free of any symptoms that might point to the great twin filters. Aside from the accentuation of the aortic second sound, which persists, and the slight recognizable sclerotic changes in the peripheral vessels, physical examination today reveals nothing abnormal. The blood pressure is constantly below 170 mm. Hg. Mrs. G.'s sole complaint is of a tendency to precordial fluttering sensations, without dyspnœa, on exertion—and these appear to be perfectly controlled by small doses of the iodide. That her regimen of "much fluid, little meat," and avoidance of overstrain, together with an occasional course of the great alterative, has preserved her, for the present at least, from permanent and serious renal damage, seems a just assumption.

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[1] Cook and Briggs, loc. cit., p. 500.

CASE II.—Mr. S., aged fifty-eight years, consulted me in June, 1904, for headache, anorexia, diarrhœa, and slight vertigo, which had troubled him for two or three days past. No previous attack of this nature. No infection for many years previously. Smokes a great deal, is a moderate but regular user of alcohol, works hard, and lives well. Does not rise at night to urinate. Is never dyspnœic and never noticed any œdema of ankles. Is of a costive habit.

On examination the patient shows a marked degree of general arteriosclerosis. The cardiac apex is in the fifth interspace, 11 cm. from the midsternal line. Heart impulse forcible. The aortic second sound is ringing and accentuated; otherwise the sounds are normal. Pulse regular, 68 per minute, very hard. Systolic blood pressure 235 mm. Hg.[1] in the recumbent posture. Urine, acid; specific gravity, 1018; a trace of albumin; a few hyaline casts, but no other formed elements; urea (the next day) 24 gm. in twenty-four hours, with a total quantity of 1850 c.c.

Treatment. Alcohol and tobacco proscribed for the time being. Purgation. Sodium nitrite gr. ii t. i. d. for three days; then potassium iodide gr. viii t. i. d. Meat once a day. Moderate open-air exercise.

By the fourth day the patient's blood pressure had fallen to 175 mm. Hg. (sitting posture); he was quite free from symptoms, and the urine of specific gravity 1022, twenty-four hours' quantity, 1900 c.c., showed no albumin or casts. A week later the urinary findings were the same. Blood pressure (sitting) 160 mm. Hg.

Twice since then has Mr. S. been afflicted by precisely similar symptoms, once a few days after an excessive meal with subsequent constipation, and once in association with exposure and slight alcoholic excess. In the second attack there was for two or three days a little œdema about the ankles. On each occasion albumin and casts appeared in the urine, in association with blood pressures of from 200 to 250 mm. Hg., and the reduction of hypertension to 180 mm. Hg. or below was in each instance readily accomplished and followed by a rapid disappearance of abnormal constituents from the urine. Repeated examinations of the patient in the intervals, when he is always subjectively in splendid condition, show blood pressures constantly between 165 and 185 mm. Hg., and urine absolutely normal as regards quantity, specific gravity, albumin, casts, and urea.

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[1] Though the figures presented in this paper, having been obtained with a narrow (5 cm.) armlet, are *not* absolute, and so subject to criticism, it is to be remembered that what interests us here is the change in the blood pressure, not its absolute height. The figures obtained with a 12 cm. armlet would differ from those here presented; but the facts and our conclusions would not be altered. (Janeway, op cit., p. 81.)

The case is striking. That albuminuria and suburæmic symptoms should have appeared three times within nine months, and leave no perceptible lasting injury behind them, must speak well for the quality of renal parenchyma provided in Mr. S.'s construction. Knowing the patient's habits and disposition, it seems almost certain that the next few years will deal more severely with him, and that at no distant date his urine will show a constant trace of albumin, and that his intervals of complete well-being will be at the least clouded.

Case III.—Mr. W., aged eighty-two years, a fairly well-preserved man of his years, with advanced sclerosis of all the peripheral arteries. Has been operated upon for prostatic enlargement, and has constantly some pyuria, but without any evidences of nephritis. Blood pressure is constantly 180 to 200 mm. Hg. (arm 23 cm. in circumference).

Between August, 1904, and January, 1905, Mr. W. had five convulsive seizures. Three of these I have seen. In each instance the patient, after feeling vaguely unwell for a period varying from ten minutes to as many hours, has complained of peculiar sensations in the right hand and arm, soon followed by definite clonic spasms of the extremity. The attacks have lasted for from two hours to twelve, have always involved the head and neck on the same side, and on three occasions the right leg has been involved in the rhythmic spasm, which is quite suggestive of that of the second stage of epilepsy—the movements are rapid, 120 to 160 to the minute, vibratory, and in violence quite exceed that of any tremor. In their distribution and character they have been strikingly suggestive of the unilateral posthemiplegic movements described by Weir Mitchell. Two attacks which I witnessed were associated with marked, but transient, motor aphasia. With the cessation of the movements Mr. W. is left in absolutely unchanged condition, except for an exaggeration of the tendon reflexes on the right side, which is never apparent after two or three days. The attacks are evidently merely a cerebral symptom of Mr. W.'s extensive arteriosclerosis, transient attacks of a hemiplegic nature, from which, as Osler recognizes, the recovery tends to be perfect. That they are, moreover, determined in their onset by a vasomotor element, seems to be evident from the blood-pressure observations which I have been able to make. Mr.

W.'s blood pressure in three attacks observed has been between 230 and 300 mm. Hg. At no time in the intervals between attacks has it ever been found above 200 mm. Hg. Blood pressure lowering medication (sodium nitrite) has always been efficient in terminating the attack, and the patient has had no further seizures since the institution of a regimen of potassium iodide, with an occasional course of the nitrites when indicated by the blood pressure.

Of interest in connection with the preceding cases is the fact that urine passed during two of the attacks personally seen contained large numbers of hyaline and granular casts, while the urine of the intervals only contains cylindroids, with at most an occasional hyaline cast. At the end of one seizure the urine (specific gravity 1018) contained a trace of a reducing substance which yielded CO_2 on fermentation with yeast. The trace of albumin constantly present is no more than may be referred to the amount of pus in the urine.

Case IV.—C. M., laborer, aged thirty-nine years. No lues; moderate with alcohol; no infections since those of childhood. The patient's father died of apoplexy at forty-eight, his mother of Bright's disease, and an older brother has kidney trouble. This man complained of little but vague digestive and other apparently neurotic symptoms, but his radial arteries were easily palpable, his systolic blood pressure was 190+ mm. Hg., his heart slightly enlarged, and the aortic second sound was accented, while his urine contained a considerable trace of albumin and some cylindroids, but no casts. Reduction of the blood pressure to an average of 160 to 170 mm. Hg. by measures of personal hygiene, regulation of the bowels, the nitrites, and small doses of potassium iodide, was attended by substantial betterment of the subjective condition, and the albuminuria became inconstant, instead of being evident in every specimen, as when first seen. What is of interest is that when further attempts at vasodilatation were made, and the blood pressure was reduced to a mean level of 150 mm. Hg. or below, the albumin appeared in much larger traces and constantly, and the patient complained of feeling as badly as when his blood pressure was allowed to remain around the 200 mm. Hg level.

Further critical discussion seems unnecessary, and the histories cited, to those familiar with the writings of Cook, Janeway, Clifford, Allbutt, and others, may in themselves justify the following statements:

1. Albuminuria (and cylindruria) in the subjects of generalized arteriosclerosis, where no other cause is at work, is always accompanied by a state of high blood pressure.
2. Intermittent attacks of hypertension of the pulse and concomitant albuminuria, separated by longer or shorter intervals of normal blood pressure during which the urine is normal, may be the only clinical expressions of a generalized arteriosclerosis.

3. Therapeutic relief of hypertension in this general class of cases, if not carried too far, will tend to relieve the pathological condition of the urine. In a certain number of cases we may reasonably hope by this means to postpone the onset of chronic renal changes.

TINEA VERSICOLOR IN AN INSTITUTION.

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Although it is one of the mildest of parasitic diseases and, in fact, hardly more than an epiphenomenon in the struggle of the organism with disease, tinea versicolor has, nevertheless, had an unusually interesting history, and one which strikingly illustrates the ups and downs of scientific opinion. In spite of two fairly clear differentiations, the earlier writers persisted in confusing the lesions with pigmentary diseases such as vitiligo, chloasma, and lentigo. After the discovery of the fungus pathologists attempted to identify it with tubercle bacillus, with non-pathogenic organisms, and with the fungi of other skin diseases. Clinicians have long vainly sought to prove that the affection is frequently associated with certain conditions of the skin and certain constitutional diseases. And systematic dermatologists have dogmatically held that the disease is confined to certain parts of the body and to certain periods of life.

In the support and dispute of these and various other opinions the subject has been considerably exploited and many points have been settled. Considerable uncertainty still exists, however, in regard to the classification of the parasite and the means of cultivation, but more particularly, from a clinical standpoint, in regard to the predisposing causes of infection, the question of contagion, and the age limits. The following observations were made with a view of obtaining, if possible, some information on these points, and were suggested by an opportunity of observing a series of cases at an institution which seemed well suited for such a purpose and by the possibility of consulting the literature upon the subject in general.

Clinical History. As Sennert says, it is incredible that the disease did not exist among the ancients, but no information concerning its antiquity is obtainable because, as he explains, we do not know by what names many kinds of macules and tubercles were designated by the Greeks and Romans. The earliest reference found is that of Solenander, who in 1596 described the affection, without naming it, as a symptomatic one, arising